.IC POLICY PAMPHLETS NO. 9
RY D. GIDEONSE, EDITOR

MONETARY STABILITY

BY

ALEXANDER MAHR

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MONETARY STABILITY

AND HOW TO ACHIEVE IT

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INTRODUCTION BY THE EDITOR

During the past ten years we have in a crude and tentative way experimented with stabilization of the purchasing power of our money through control of credit. It was a groping process of trial and error. Frequently, political courage failed. More often a technical understanding of the nature of the experiment was missing. At the present time the results are discouraging.

It is sometimes argued that the Federal Reserve authorities "lost their nerve" after the collapse in the Stock Exchange in the fall of 1929. Others point to the fact that the guiding spirit of the experiment, Governor Strong of the Federal Reserve Bank of New York, had passed away. It is also claimed that the severe test of the scheme's underlying notions with regard to the efficacy of cheap credit has revealed the need for more active supplementary powers in such emergencies and for a complete recasting of our banking structure.

In similar circumstances in England a Royal Commission would be appointed to examine the system that had failed to give adequate service and to recommend a specific set of remedies after due consideration of expert testimony. Our own national reaction has been to disregard whatever experience has been acquired and to debate in the grand style the "issues" of the Bryan period.

It is the merit of Dr. Mahr's essay that it redirects attention to our own experiment of the past decade and to the weaknesses in conception and in execution which it revealed. The author—one of the younger economists at the University of Vienna—stands aside from our current political controversy. He has drawn freely upon his recent studies in this field, particularly—with the permission of Professor Harms—upon two articles in the *Weltwirtschaftliches Archiv* that attracted wide attention at the time of their publication.

This is the ninth of a series of Public Policy Pamphlets which the University of Chicago is publishing. Frequently

the scholarly journals give no attention at all to problems that have an acute but temporary interest, while the ordinary magazines can print little but superficial comment. The University might well perform a valuable public service by making available to the public whatever special training and information it may have at its disposal. The continuation of such a series will, of course, depend upon its reception by the public.

Perhaps it goes without saying that the authors of these pamphlets are individually responsible for their views and that they in no way involve the responsibility of the University of Chicago.

HARRY D. GIDEONSE

December 19, 1933

MONETARY STABILITY

More and more the conviction is spreading that our present currency system is in need of some fundamental reform. And indeed, a system which renders possible such extreme fluctuations in the value of money as have been experienced during the last decades cannot very well be regarded as ideal. From 1913 until 1920 the dollar lost more than half of its purchasing power, as measured by the level of wholesale commodity prices, but in March, 1933, the dollar was worth about 25 per cent more than in 1913. The record of the pound, the franc, and nearly all other currencies is even worse—not to speak of the depreciation of the mark which assumed astronomic dimensions in 1923. These changes in the buying power of money are not only detrimental either to creditors or to debtors—the creditors being injured by a shrinking value, the debtors by a rising value of the monetary unit—but their effects are even more serious upon employment and general business conditions. A period of rising prices causes an expansion of production which only too easily becomes an overproduction from which crisis and depression are bound to follow. A period of falling prices means smaller profits or even losses for business enterprises, production is curtailed, and the results are unemployment and social unrest.

No wonder, then, that the movement to establish a stable purchasing power for money is now assuming so much strength. But there is still a considerable difference of opinion as to what index number of prices should be chosen for measuring the value of the monetary unit. Should it be an index number of the "general" price level, i.e., an index of the prices of all kinds of goods, including stocks, bonds, rents, real estate, labor, as well as commodities at wholesale and at retail? Or should the index number be based on a certain section of the price level, as for instance wholesale prices or retail prices? In 1927 Dr. Maurice Leven, through a questionnaire sent to a great number of economists, found that 176

of them favored the "general" index, 59 the index of wholesale prices, and 13 the index of retail prices.[1] This is by no means a problem of minor importance, for experience has shown that these index numbers often diverge considerably. For instance, Mr. Snyder's index of the general price level shows an upward tendency for the period from 1923 to 1929, as compared with the wholesale index of the Bureau of Labor Statistics. On the other hand, the retail index usually changes less and more slowly than the others.

Space does not permit a critical discussion of the arguments that have been advanced in favor of an index which includes the prices of all or nearly all kinds of goods. Therefore, I shall here state only briefly the reasons why, in my opinion, a policy of stabilization should be based exclusively upon an index of wholesale prices.

I. WHAT PRICES SHOULD BE STABILIZED?

Wholesale prices are of primary importance for industrial activity. They, and generally not retail prices, have to be taken into account by the producer. For the single entrepreneur it is the wholesale price of *his* products—no matter what kind of products, whether finished articles, raw materials, or machines and other instruments of production—which in the main determine the direction and the extent of his production. We all know from experience the consequences of a continuous fall in the wholesale prices of products: the output is restricted or even discontinued entirely, because the entrepreneurs are, as a rule, not able to reduce their expenses of production sufficiently to restore a profitable relation between prices and costs. On the other hand, a continuous rise in wholesale prices usually induces employers to expand their production unduly, as profits increase on account of unchanged or relatively little changed wages and other costs of production. Of course, monetary policy cannot aim at stabilizing the prices of all individual products. Its task is to prevent a rise of all or most prices by a superabundant supply of money, or a general fall in prices by an insufficient supply.

[1] Quoted from Irving Fisher, *The Money Illusion* (New York, 1928), p. 201.

If the methods used in the past for measuring the purchasing power of money have almost always been based upon an index of wholesale prices, and not upon a retail index, or upon a compound of both groups, the reason has scarcely been a conscious attempt to promote the producer's interest. It was rather the observation that prices at wholesale generally change more swiftly, or show wider fluctuations, than retail prices. They were therefore regarded as a better index of the fluctuations in monetary supply. Moreover, retail prices often differ widely from one place to another; hence it is difficult in their case to calculate a representative average.

Many adherents of the general price index seem to believe that the interests of all groups involved—including, particularly, the consumers—can be served only by stabilizing the average of *all* prices. Those who advocate a retail index go still farther and consider the interests of the consumers first of all. But these positions are not very well founded. A little reflection will show that the interest of the producer is by far the more sensitive one: even slight fluctuations in the value of money have a very strong influence upon the extent and the profitableness of production, whereas they are scarcely felt in the private household. A small percentage increase in the price level may bring about a general upward movement of the business cycle; and a decrease of equal extent may cause the ruin of many enterprises and the closing down of numerous plants, accompanied by unemployment. To the consumer, however, the advantage is in the second case clearly a slight one, while the disadvantage arising in the first case is borne by him without great difficulty. It follows from this that in the case of a divergence between the interests of producers and consumers the interests of the producers should be considered first. Such a policy would in the long run be advantageous to all individuals, for they are, as a rule, producers and consumers at the same time.

Wages, too, should be excluded from the index number. Very frequently the general trend of wages diverges from that of commodity prices. It may, for instance, happen that wages in general rise on account of increased productivity of labor, while the average of commodity prices remains constant.

Then the index number will show a continuous tendency toward a rise if wages are included; and the central bank of the country in question (in the United States the Federal Reserve banks) will have to resort to a policy of deflation in order to reduce the average of commodity prices and wages to its former level. Very likely this would prevent, from the very beginning, a large part of the progress of production and improvement in wages which otherwise would have been possible.

It is still less justified to add rents and other cost-of-living items to the index number, as is proposed by the adherents of the general index. For the cost of living varies in the course of time not only through fluctuations of the retail prices, but also through a change in quality, kind, or quantity of the articles consumed. Thus a factor would be introduced into the index which, as a rule, is determined by reasons other than fluctuations in the supply of money. The same holds for the "rent" item.

For quite similar reasons security prices and realty values ought to be excluded. First, they are often, also in their aggregate, subject to heavy speculative changes within short periods of time. Aside from this, stocks usually go up on account of an increased productivity of industrial enterprises, and fall if industry is depressed. The prices of bonds vary if the rate of interest for long-term loans moves up or down; a sinking rate of interest means that the quotations of bonds rise, other things being equal, and vice versa with higher interest rates. The prices of urban sites and farm land may rise greatly in connection with rapid economic progress. In the United States the value of farm realty has been going down since 1921 owing to the widespread and continued agricultural depression. But all these are developments that should not be allowed to influence the currency index for the same reason for which an increase or decrease in wages should not be taken into account as a guiding factor in monetary policy.

The wholesale index is in the majority of cases the most suitable standard of deferred payments also, as under modern conditions most loans are given for purposes of production and trade. But, of course, creditors and debtors are in the case of

loans for consumption purposes entirely at liberty to take a retail index as a basis for the payment of interest and capital debt. It is a mistake to consider changes in the value of money exclusively from the viewpoint of the relations between debtors and creditors, as is sometimes done. It is not the question of "justice" to both parties which is of paramount importance for the community as a whole; far more weight attaches to the effects of a fluctuating purchasing power upon production and employment, and thus upon the basis of existence of many individuals.

II. "NEUTRAL" VERSUS STABLE MONEY

A very frequent objection against a policy of stabilizing the price level—be it the level of wholesale or any other prices—runs as follows: An upward or downward tendency may be due to changes in the supply of money, but it may also be due to changes on the "commodity side," i.e., changes in the conditions of production and in the quantities supplied on the markets, or in demand. Stabilizing the purchasing power of money is then regarded as desirable only in so far as it prevents the price level from being altered by monetary influences. It is regarded as a highly objectionable policy if it renders impossible all other changes of the price level, especially its lowering in the case of reduced costs of production.

Now it is true that most economists who advocate the fixity of purchasing power either have overlooked the problem of non-monetary changes of the price level or have underrated its practical bearing. Sometimes it is argued that a fall in some prices brought about by decreased costs of production would be automatically counterbalanced by a rise in other prices, because the cheapening of some commodities renders more means available for the purchase of other goods; and the price of these goods goes up on account of the increased demand. This is only true in exceptional cases, however. If a lower price of a particular commodity does not induce consumers to buy more of it, it is clear that they will have more money available for the purchase of other goods. But if—as would usually be the case—the cheapening of some of the commodities calls forth a greater demand for them, there is

no or very little reaction upon other prices. It is evident that the average of all prices will then tend to go down; and if money must neither gain nor lose in purchasing power, the supply of circulating media will have to be increased in order to counteract this tendency. On the other hand, if the price level tends to rise because the production or distribution of some commodities has become more expensive, the supply of money would have to be restricted in order to maintain stability of purchasing power.

Considerations of this kind have led many, especially European, economists to oppose the stabilization of purchasing power. Their ideal would be a currency system in which money is an entirely passive factor exerting no influence whatsoever upon commodity prices. This is clearly a proposition wholly different from the conception of a money of stable purchasing power, because under the first system any non-monetary influence upon the price level would be allowed to have its effect. Earlier authors used to speak in this connection of the "maintenance of the intrinsic value of money." Modern writers prefer the expression "neutral money" as it is a type of money that remains "neutral" relative to goods.*

Now if we follow the idea of neutral money to its last consequences we find that it is a question of not changing the supply of money whatever may happen on the side of the commodities. If there is, owing to a decreased supply of goods, a tendency toward a rise of average prices, no counteracting decrease in the supply of money must take place, as would be necessary under a system of stable purchasing power. Likewise, if the supply of goods increases for some reason or other, neutrality of money requires that no action be taken to prevent a fall in prices. Hence neutral money simply means a constant total supply of money. The expression "total supply of money" is here used in default of a better one to denote the quantity of circulating media multiplied by their velocity of circulation (turnover). It is obvious that 1,000,000 dollars changing hands twenty times a year buy the same aggregate value of goods as 2,000,000 dollars which change hands only

* Cf. F. A. Hayek, *Prices and Production* (London, 1931), p. 25.

ten times. Hence the aggregate amount of notes, commercial bills, checks, and other means of payment would have to be diminished under a system of neutral money as soon as their velocity of circulation had increased, and vice versa in the case of a decreased velocity of circulation.[3]

But here an insuperable difficulty arises. It is entirely impossible to determine the exact amount of all checks, bills of exchange, and other substitutes for money circulating during a given period of time; and it appears to be a hopeless task to measure the velocity of circulation of all these different instruments of payment with any accuracy. Accuracy, however, is absolutely necessary here. For if, on account of wrong estimates as to the velocity of circulation, the quantity of money is increased too much, an inflationary upward movement will be started; if the quantity of money is decreased too much, a business depression will ensue. Even errors of a few per cent as to the required volume of money and credit may have such consequences.

This is in itself sufficient to render the policy of neutral money incapable of practical application. Moreover, one may ask whether a monetary system which puts a brake upon economic growth is desirable in principle. For if the total supply of money is kept constant any expansion of production will lead to a fall in prices, and this will either prevent or retard further expansion.[4]

But is it really a prerequisite of "sound" money to let nonmonetary changes of the price level go on unhampered, as the adherents of neutral money contend? Or are the disadvantages of counteracting those changes for the sake of stabilizing purchasing power only slight in comparison with the benefits that the prevention of monetary disturbances (i.e., inflation or deflation in their proper sense) would afford?

All depends here upon the extent and duration of the nonmonetary price changes. For instance, if only a few commodities of secondary importance become cheaper by im-

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[3] Cf. Hayek, *op. cit.*, p. 107.

[4] For a more detailed discussion of the arguments for and against neutral money see my article "Neutrales oder wertstabiles Geld?" *Weltwirtschaftliches Archiv* (July, 1933), pp. 19–23, 26–45.

proved methods of production the effect upon the entire structure of prices will certainly be striking. Decreasing returns from land is another frequently quoted example of a change on the "commodity side." If returns from land decline average prices will rise, other things being equal. In order to maintain the purchasing power of money it would be necessary in such a case to restrict the supply of it. Thereby the prices and costs of production of agricultural as well as industrial commodities are reduced. Industrial products would become cheaper, on an average, and agricultural prices would not rise as much as in the case of an unrestricted action of the law of decreasing returns. We may, however, safely say that decreasing yields from land never set in so suddenly, nor to such an extent, that the counteracting restriction of money would be likely to produce a critical situation for business. It is rather a question of a slow development which would scarcely be noticed when put beside the effects of the annual fluctuations of agricultural production.

In so far as price movements of some particular commodities are caused by a change of wants or of fashions, their influence upon average prices is obviously slight, if there is any influence at all, for in this case the increased price of newly favored commodities would probably be balanced by lower prices for the goods which are now less intensely demanded.

The problem becomes entirely different, however, if the prices of many commodities rise or fall within a short period of time, in consequence of altered conditions of production. Here we may quote three instances: crop fluctuations, rapid technical progress, and great wars. The case of war may be omitted from our consideration, because a future war between the great powers would be a calamity of such dimensions that a rise of the price level — which most likely would take place under any monetary system just as it took place during the World War in all belligerent countries — would certainly be one of its minor evils. But the two other cases which, unfortunately, have as yet attracted very little attention, must be examined very carefully, as it is a question of developments that occur again and again in the ordinary course of events.

III. POTENTIAL DANGERS OF CROP FLUCTUATIONS UNDER A SYSTEM OF STABLE MONEY

As is well known, the prices of farm products often change considerably from year to year, due to crop fluctuations or other specific developments in agriculture. Moreover, these changes are most likely to cause fluctuations in the prices of foods also; for there is, naturally, a similar relation between market supply and prices of foods as prevails with the farm products from which the foods are made. The following table shows the price movements of farm products and foods, as compared with the movements of the index of all commodities, during the period from 1890 to 1930.

INDEX NUMBERS OF THE WHOLESALE PRICES OF FARM PRODUCTS, FOODS, AND ALL COMMODITIES, 1890–1930*
(1926 = 100)

Year	Farm Products	Foods	All Commodities	Year	Farm Products	Foods	All Commodities
1890....	50.4	55.5	56.2	1911....	66.8	62.0	64.9
1891....	54.2	54.8	55.8	1912....	72.6	66.8	69.1
1892....	49.5	51.0	52.2	1913....	71.5	64.2	69.8
1893....	51.3	54.7	53.4	1914....	71.2	64.7	68.1
1894....	44.6	48.2	47.9	1915....	71.5	65.4	69.5
1895....	43.9	47.3	48.8	1916....	84.4	75.7	85.5
1896....	39.6	44.1	46.5	1917....	129.0	104.5	117.5
1897....	42.5	45.5	46.6	1918....	148.0	119.1	131.3
1898....	44.9	47.8	48.5	1919....	157.6	129.5	138.6
1899....	45.8	47.7	52.2	1920....	150.7	137.4	154.4
1900....	50.5	50.8	56.1	1921....	88.4	90.6	97.6
1901....	52.8	50.5	55.3	1922....	93.8	87.6	96.7
1902....	58.4	53.3	58.9	1923....	98.6	92.7	100.6
1903....	55.6	52.0	59.6	1924....	100.0	91.0	98.1
1904....	58.5	54.0	59.7	1925....	109.8	100.2	103.5
1905....	56.4	55.1	60.1	1926....	100.0	100.0	100.0
1906....	57.3	53.4	61.8	1927....	99.4	96.5	95.4
1907....	62.2	57.0	65.2	1928....	105.9	101.0	97.7
1908....	62.2	58.7	62.9	1929....	104.9	99.7	96.5
1909....	69.6	62.6	67.6	1930....	88.3	90.1	86.3
1910....	74.3	64.9	70.4				

* See U.S. Bureau of Labor Statistics, Bulletin No. 543 (Wholesale Prices, 1930), September, 1931, pp. 3–11.

Even if we neglect the irregular changes of the war period and the first years after the war, there remain under quite normal conditions—such as prevailed from 1890 until 1913 and from 1923 until 1928—considerable price fluctuations of agricultural commodities around the average of all prices from year to year. For instance, from 1891 to 1892 the index of farm products fell from 54.2 to 49.5 and the index of foods

from 54.8 to 51.0, the average of the remaining commodities showing very little change in price. Expressed in percentages of the 1891 prices the fall was 8.7 per cent in the case of farm products, and 6.9 per cent in the case of foods. From 1927 to 1928 the index of farm prices advanced from 99.4 to 105.9, and that of food prices from 96.5 to 101.0, whereas the price level of the other commodities remained unchanged. This means rises of 6.5 per cent and 4.7 per cent respectively (if the prices of 1927 are taken as a basis). Moreover, these fluctuations are still aggravated if we turn from the consideration of yearly averages extending from January until December to the price changes which occur from harvest to harvest. From July, 1927, to July, 1928, the indices of farm products and of foods advanced respectively 9.8 per cent and 8.8 per cent.

The influence of these changes upon the index number of all commodities depends, of course, on the weights assigned to farm products and foods. These weights were, originally, 29.3 per cent and 23.8 per cent respectively, then they were reduced to 21.11 per cent and 22.38 per cent; in January, 1932, they were reduced again to 17.20 per cent for farm products and 19.44 per cent for foods.[5] But even by this successive diminution of weights the potential dangers of fluctuating farm and food prices are not entirely removed. An advance of 9.8 per cent in the prices of farm products and of 8.8 per cent in the prices of foods, such as occurred between July, 1927, and July, 1928, still raises the index of all commodities by 1.69 per cent + 1.71 per cent = 3.40 per cent, if the respective weights are 17.20 per cent and 19.44 per cent. This may have very unpleasant consequences, if the Federal Reserve banks are under obligation to keep the purchasing power of money strictly constant, for then the increase of the total index would imply the necessity of bringing about a compensating price reduction by a restriction of the supply of money. Considering the great elasticity of demand for industrial products the manufacturing industries would apparently suffer most by such a restriction. On the other hand, if farm

[5] Cf. Bureau of Labor Statistics, Bulletin No. 572 (Wholesale Prices, 1931), published in January, 1933, pp. 92, 93.

and food prices go down on account of especially rich harvests the consequence would be that the circulating means of payment would have to be increased in order to raise average prices to the former level. This, too, would first of all affect the manufacturing industries. Thus a situation would be created similar in some respects to the present one so vigorously combated by most advocates of stabilization. The volume of credits placed at the disposal of industry would fluctuate according to the fortuitous results of crops—sometimes quite considerably. The unsteadiness of farm prices would thus be a disturbing element of a serious character for the policy of monetary stabilization.

What could be done in order to remove this difficulty? It might, perhaps, be proposed to exclude entirely the agricultural group from the index number. But against this serious objections are to be raised. First, farm products such as cotton, cottonseed, wool, hides, and flax are an important part of the raw materials for industry. Their exclusion would also cause the total index to shrink considerably, and it would therefore be influenced to a greater degree by price changes that were due to the conditions of demand and supply of some individual commodities. Second, most mass products of agriculture represent—apart from such price fluctuations as are caused by crop conditions—a very suitable material for a long-time index number. On the one hand, their quality changes much less than that of most other articles, while on the other hand, the demand for them is affected to a relatively smaller extent by fashion or changing wants.

In my opinion, there are two ways out of the difficulty. One solution would be to have the index number contain a moving average of agricultural prices covering several years rather than the prices of a single year or month. The meaning and justification of such a measure is to be found in the fact that crop fluctuations, and consequently the oscillations of the prices of agricultural commodities around the average of commodity prices, generally tend to balance each other during longer periods of time, so that a dangerous effect upon the currency index is avoided. The longer the period upon which the calculation of the average is based, the smaller in general

are the deviations from that average. On the other hand, the period should not be too long. For then long-time price changes would receive an adequate representation in the index number only after a considerable time-lag. An average of seven or eight years would perhaps be the most desirable middle course.

The other method would be to allow the Federal Reserve banks to deviate by a small percentage from the stabilization level, whenever the average of all commodity prices is changed exclusively or mainly through fluctuations in farm and food prices. A limitation of the deviation seems to be essential; but unconditional permission of this kind cannot very well be advocated as it might lead to undesirable consequences in cases in which the average of all commodity prices is changed mainly by a rise or fall in the prices of industrial products.

IV. RAPID TECHNICAL PROGRESS AND THE STABILIZATION OF PURCHASING POWER

There is another case in which a policy of stabilizing the purchasing power of money, if carried out by the methods that have been in use until now, might lead to serious results. I refer to the case of a price level which is falling on account of greatly improved methods of production. At first sight it would seem that in this case an increase in the supply of money for the purpose of re-establishing the former level of prices would have no detrimental effect. The new money would, one might argue, to some extent stimulate business activity without injuring the interests of the consumers or of the creditor class. The consumers with fixed incomes would still be able to buy the same amount of goods, on an average at least. Likewise the creditors would not lose because the purchasing power of the amounts lent by them would remain constant. Moreover, a large part of the consumers would gain indirectly by their participation as workers or small capitalists in the process of production, on account of an increased business activity and a better employment situation. On the other hand there would be no danger of overexpansion and ensuing depression under a system of stable purchasing power,

because as soon as the stimulus exerted by the technical innovations would cease to work and business would show signs of slackness, some prices would tend to fall. The Federal Reserve banks would then lower the rediscount rate and buy securities on the open market, which, in turn, would improve the financial situation and give business a fresh incentive. At any rate, the obligation of the Federal Reserve banks to keep the price level stable would be a guarantee not only against an unsound expansion of business, but also against a serious decline.

This was also my opinion in 1928 when I wrote an article on the stabilization of the purchasing power of the dollar.[6] Recent developments, however, have indicated that the course of events may be very different in reality. The years from 1923 to 1929 were a period of unprecedented prosperity in the United States, and this prosperity was in the main due to a marvelous progress in the technique of production. The cost of production was considerably reduced in most industries. But the price level of commodities at wholesale remained fairly steady during the same period, in accordance with the intentions of the leaders of the Federal Reserve Board. Apparently this was a situation which in its most important features resembled the one to which the preceding theoretical reasoning refers. But we all know how things went. There came the stock exchange crash in the fall of 1929, introducing a sudden decline which soon led to the worst depression of history.

How could this happen in spite of the fact that the average prices of products had been approximately stable during the period of prosperity? Was it an error to keep them stable although the costs of production had decreased? Some economists maintain it was, especially Professor Wilhelm Röpke. He says: "To keep a price level stable that under ordinary circumstances would necessarily have gone down, amounts to the same as if with cost of production remaining steady prices would be forced upward by an unveiled inflation of credit. The fact that the general price level rises is not the essential

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[6] *Weltwirtschaftliches Archiv*, XXIX, 1.

thing, but exclusively the fact that additional quantities of money and credit are brought into circulation, causing dangerous dislocations in the structure of production."

This is correct as far as it refers to the upward movement of the business cycle. Some years ago it was generally assumed that a rising price level is one of the indispensable features of the industrial boom. This had indeed been suggested by the study of previous economic cycles. All of them were characterized by a quite considerable rise in average prices of industrial products while the expenses of production went up to a lesser extent and less quickly. It was this increase in the margin between prices and costs which caused profits to rise and business to expand. Now, business cycles of this kind can obviously be avoided by stabilizing the level of wholesale prices. For then the soaring of prices and profits is stopped in time. Of course, we are only dealing here with general cycles, not with partial cycles that may take place in particular industries owing to changes in fashion, in the conditions of production, and the like. Upward and downward movements of this kind may also occur under a stable money, provided that their effects upon the general level of wholesale prices compensate each other.

Recent experience, however, has made it evident that the margin between prices and costs may also be increased in another way: if the expenses of production are greatly diminished by the introduction of new labor-saving machinery, profits will rise even with an unchanged level of commodity prices. Thus employers are induced to expand production, and in order to do this they have to take up more credits; thereby the volume of money and credit in circulation is enhanced. This cannot be prevented under a system of stable purchasing power as long as the price level remains unaltered. And average commodity prices may very well remain constant in spite of the expansion of credit, for the lowering of costs tends to keep them down.

It is clear, then, that rapid technical progress may, under a system of stable money, lead to a boom. But is it an in-

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evitable conclusion that the boom will be followed by a depression of approximately similar intensity, as was the case in the United States? This is, in fact, the conclusion of Professor Röpke which leads him to reject the stabilization of purchasing power and to advocate a policy of "neutralizing" money as far as possible.[8] The inference drawn from the experience of the last few years, however, should by no means be generalized. It is a mere truism that there would have been no severe depression, perhaps only some temporary recession, after the stock-market crash, if it had been possible to keep the price level stable. And as it is only a question of preventing the depression—a boom without ensuing depression being a most desirable phenomenon—we have, in fact, to deal with the problem of enlarging the powers and competencies of those responsible for the conduct of monetary policy in such a way as to enable them to intervene successfully in times of a strong downward tendency of business and prices. This is the real problem to be solved. Technical progress would then lose its present disadvantages and could unfold its benefits so much the better. There would be no longer any danger of a serious business retrogression following in the wake of economic progress; the prosperity brought about by the utilization of greatly improved methods of production could be made to last.

V. THE IMPROVEMENT OF THE METHODS OF MONETARY STABILIZATION

But how can the methods used for controlling the price level and the business cycle be reformed? What are the defects of the methods that have been hitherto employed for this purpose?

It is a matter of common agreement nowadays that a lowering of the discount rate, however promptly it may be enacted, is not in itself a sufficient measure for combating a severe depression. Much greater effects are to be expected from open-market operations. Mr. Keynes is certainly right in stating that "Central Banks have always been too nervous hitherto

[8] *Ibid.*, p. 108.

. . . . of taking measures which would have the effect of causing the total volume of bank money to depart widely from its normal volume, whether in excess or in defect."[8] It is true that by purchasing investments the central banks can immediately only improve the situation on the money market, but this may be of the greatest value in avoiding a financial panic. It is safe to say that there would have been fewer bank crashes during the last years in the United States if this device had been employed more energetically and, most of all, at an earlier date. In that case the consequences of bank crashes, namely, hoarding of cash, withdrawals of credits, closing of industrial and commercial enterprises, and so forth, never would have reached such enormous dimensions. Thus open-market operations no doubt represent a valuable means for preventing the crisis from spreading further. But it is questionable whether they are sufficient to bring about an upward movement of the business cycle. Large purchases of securities by the Federal Reserve banks will certainly alleviate the situation on the money market and will cause interest rates to go down; but such purchases will hardly lead to a considerable increase in consumer demand. Therefore, employers will not be induced by any amount of cheap money to increase their output, as long as there are large stocks of unsold commodities and no prospects for selling them in the immediate future.[9] In such a situation public enterprise, not necessarily working for sale at a profit, might fill the gap. Public works financed by credits which otherwise would not have come into being, would, by creating additional employment, also increase mass purchasing power, and in this way enlarge the hitherto insufficient demand for the products of private industry.

It is most essential in this situation that public works be financed by credits. If they are financed by taxes private industry is injured either by a shrinkage in consumer demand, or by a diminished supply of capital, or both. Thus public

[8] J. M. Keynes, *A Treatise on Money*. Vol. II. *The Applied Theory of Money* (London, 1930), p. 370.

[9] Cf. W. H. Beveridge, *Unemployment. A Problem of Industry (1909 and 1930)* (new edition, London, New York, and Toronto, 1930), p. 414.

works would probably become as detrimental indirectly as they are useful directly.

As to financing by means of credit, three possibilities are to be considered: first, the flotation of loans on the general money market; second, the combination of this measure with open-market operations; and third, credits with the central bank, i.e., with the Federal Reserve banks in the United States. As long as the first method can be applied without serious disadvantages, it should certainly be preferred as the normal and conservative way of procuring money, and as a method which will not be exposed to any misinterpretations and misgivings. It is often said that the supply of credit for the purpose of private investment is rendered insufficient by extensive public borrowings. This may be true under normal conditions, but not in the situation we are here considering, namely, that private industries need credits almost exclusively for meeting financial obligations, but rarely for investment purposes. It may also be objected that in times of severe depression the interest rate to be paid for public loans will be relatively too high, at least if public borrowing assumes large dimensions. This objection has certainly some weight. It will be difficult to make predictions here for a given case. In general, the quotations of previously floated loans may be considered as a fairly reliable guide. But if it is a question of very large sums there is indeed a danger that the new loans could be placed only under much less favorable conditions and, moreover, that the quotations of the outstanding loans might go down.

This can be quite easily avoided, however, if the Federal Reserve banks buy large amounts of government securities before and in part during the issuing of new loans. In this way a rise in the value of these securities might be brought about, or, at least, a fall in their value could be avoided and, on the other hand, conditions would be rendered favorable for the placing of the new issues on the money market. For the improved status of the older government securities would naturally react favorably upon that of the new ones; and the continued purchases of the Reserve banks would enable the money market to obtain the means necessary for the smooth

absorption of large new issues. At the same time it would be possible to avoid the danger[7] that central banks, since they are limited in the type of securities which they purchase (usually government securities), might create an entirely artificial position in the latter relative to other securities. The increased demand for government securities caused by the open-market purchases would be met by an increased supply.

This way of financing public works already shows some similarity in its final effects to the third of the above-mentioned methods which consists in the contracting of credits with the Federal Reserve banks, these banks supplying the government with money which they are creating on the basis of those credits. In the second case the Federal Reserve banks are also supplying the money market with additional means of payment by way of open-market operations, and this money, or part of it, is handed over to the government when the new loans are paid in by the subscribers. The results are therefore analogous to those in the third case, only the method is more roundabout. The third method would have the advantage that it can be adapted more flexibly to the pecuniary requirements resulting at any given moment from the advance of the public works.

The "inflationary"—or, properly speaking, "reflationary" character of this method—is more obvious. Many ardent champions of "sound" money still view with alarm every increase in the amount of money, if it is designed to finance public expenditure of any kind. But their opposition will most likely be less violent if the second method is resorted to which, although quite similar in its most essential effects, appears to be less offensive in its form, as it merely represents a combination of two well-known and generally approved devices, namely, open-market operations and public loans of the ordinary type.

The widespread fear of inflation may perhaps to a large extent be traced to the fact that under the present regulation of monetary policy nobody can safely predict how far an ex-

[7] Referred to by J. M. Keynes, *op. cit.*, p. 372.

pansion of money and credit, once set on foot, will proceed. There is no fixed and obvious limit to expansion. If currency policy, however, is legally directed toward the stabilization of purchasing power, the limit of credit expansion would coincide with the attainment of the intended level of prices. Nothing would then be left to justify the fear of inflation.

The present situation in the United States is, on the one hand, characterized by the fact that there is still a market capable of absorbing large bond issues, in spite of the havoc wrought by depression. On the other hand, public works constitute only one measure among a number of others designed to bring about a recovery. The amounts appropriated for these other relief measures exceed even the total amount ($3,300,000,000) provided for public works. Public works must, however, be considered as the most effective method of speeding up recovery, by creating employment and restoring mass purchasing power. Now the question is: Will it be possible to secure the huge sums required for public works as well as for the other relief acts exclusively by the issue of government bonds and treasury bills? Here we may quote the following passage from the *Report of the National City Bank of New York*, of September, 1933:[12]

"The August 15 offering of $500,000,000 eight-year 3¼ per cent bonds and $350,000,000 two-year 1⅝ per cent notes was extremely successful, subscriptions totaling $4,801,000,000, of which $835,000,000 was allotted in bonds and $353,865,000 in notes. The reception accorded these issues, particularly the bonds, is highly gratifying in view of the enormous volume of new financing for which the treasury must find a market during the next year or so. Altogether, the sum total of potential demands upon the treasury, created by the terms of the various relief acts, runs up to something like ten billions of dollars over the next two years. Quite probably the maximum potentialities of these acts will not be realized; even so, the amount of new money which the treasury will have to raise is bound to be very great. Moreover, in addition to raising new money, the treasury will have to meet its regular

[12] P. 134.

maturities, to say nothing of commencing the formidable job of refunding the $6,268,000,000 of the Fourth Liberty Loan outstanding which becomes callable this year and matures in 1938.

How are these vast needs to be provided for? Clearly, they cannot be wholly financed by increasing the floating debt; large amounts of long-term bonds will have to be sold.

Under such conditions a policy of extensive open-market buying would certainly prove very useful. It would strengthen the bond market during the period of heavy government borrowing and at the same time prevent any considerable rise of the interest rate.

As soon as average commodity prices will have reached the level which had been set as the objective of monetary policy, government borrowing would have to be discontinued. No new works should be started then and those already begun should be financed to a larger or smaller extent out of the proceeds of taxation. If the stimulus exerted by the additional bank credits or loans should turn out to be too strong and, therefore, prices should tend to rise above the stabilization level, the Federal Reserve banks would have to reverse their policy by beginning to sell securities on the open market and to withdraw from circulation the currency which is returned in payment for these securities.[9] The effects of this action could be increased, if the government used the proceeds of taxation for the repayment of part of the loans or bank credits.[10]

If the policy outlined here in its main features is carried out successfully, the disadvantages of economic changes which are due to decreasing costs of production as a consequence of technical innovations, will be reduced to a minimum. Then progress, however rapid, will lose most of its present dangers; the transition to a higher level of general welfare will take place without serious distortions of the economic and social structure.

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[9] This procedure has been suggested by P. W. Martin in his highly interesting study, *The Planning of Monetary Purchasing Power. A Study of Industrial Depression and Recovery*. London, 1936, p. 198.

[10] *Ibid.*

It has already been pointed out that those business cycles which are characterized by a more rapid rise of prices than of costs of production can be avoided from the very beginning by a skilfully managed discount and open-market policy. The central banks could raise the rediscount rate and sell government securities as soon as the currency index shows an upward tendency. If this were done with appropriate speed and energy, no supplementary measures of the government or of communities would be necessary.

As to the comparative frequency of these two types of business cycles, it has been remarked above that all pre-war cycles belonged to the type which is characterized by a more or less considerable rise of the price level during prosperity. Only the American boom from 1923 to 1929 and the ensuing depression are a conspicuous example of the other type. But apparently we have to deal here with a highly exceptional phenomenon: some economists used to speak quite properly of a second industrial revolution. The present depression has also been greatly aggravated by political disturbances of a highly extraordinary character; and international trade and credit relations have been especially impaired because of this factor.

VI. INDEX STANDARD AND GOLD

One more question remains to be discussed: The question whether and under what conditions the index standard advocated here will be compatible with the maintenance of the gold standard. In modern countries adhering to the gold standard, gold is very seldom, if at all, used for domestic payments. The purpose of basing the currency on gold is nowadays, first of all, to set up certain limits for the total amount of circulating media, and then to facilitate to some extent international payments. With an index standard gold is rendered at least superfluous in its first function; there is even a danger that it may become an obstacle to the stabilization of purchasing power, namely, if the production of gold for some reason or other should increase or decrease greatly, or if with a relatively stable gold production the supply of commodities should grow very considerably. Perhaps we should not over-

rate the significance of this too much. For, as Mr. Keynes has pointed out,[13] an experience covering much ground and subject to scarcely any exceptions shows that in the case of emergency the gold standard is usually suspended—from which it also follows that tying the currency to the precious metal by no means offers a reliable protection against a future serious shrinkage in the value of money, precisely because the tie is usually loosened in especially critical situations.

Naturally, as long as the gold reserve is considerably larger than the legal minimum and thus leaves a fair margin for changes in the quantity of circulating money, there is no objection against retaining a gold basis for the index standard. If the margin be too small at the outset, it might be enlarged by lowering the minimum reserve requirements. For tactical reasons it may be advisable to give the new currency system a "golden camouflage," to use the expression of Mr. Keynes: in this way a really rational monetary policy could be initiated without any need of shaking the deep-rooted mass belief in gold as the general and invariable denominator of value.

If the realization of a policy of monetary stabilization should at some time in the future prove to be incompatible with the present forms of the gold standard, thus making the connections between the value of gold and of money a current problem of the day, then it is quite safe to assume that business men and politicians would also show sufficient interest and understanding of this subject. But the rearrangement which would then take place would not necessarily consist in a complete abolition of gold. Solutions would also have to be considered which would aim at a thorough change in the rôle of gold within the currency system. In this context the plan of Professor Irving Fisher must be mentioned. He would try to secure a stable value of the currency by changing the weight of the legal unit of money every month or even half-monthly, if necessary. Gold coins would be abolished, but a given quantity of notes could be exchanged against varying quantities of the precious metal. A note would represent a quantity of gold unchangeable in purchasing power rather

[13] *Op. cit.*, p. 299.

than in weight, the purchasing power being determined by the currency index. Under this system gold would not have the function of determining to a large extent the total amount of currency, but it would still function as a reserve for the clearance of a temporary surplus or deficit in international balances.[16]

The solution of the monetary problem which is being advocated here is indeed not entirely free from disadvantages—but who has ever been able to suggest a "perfect" solution of this problem? In any case, if we carefully weigh all arguments, we arrive at the conclusion that the stabilization of the level of wholesale prices appears to be the best possible regulation of the currency system, a regulation which proceeds from a fixed and unequivocal principle. It might perhaps be said that the ideal solution is not to be found in basing monetary policy on a principle which has been laid down once for all, but rather in the liberty of action of the persons responsible for managing the currency. It might be argued that the management should be authorized to take such measures at any given moment as are deemed to be most advantageous in that particular situation. They would, consequently, be permitted to raise the price level if they thought it advisable, or to resort to deflation whenever they believed it to be the most suitable course.

But such a policy would run contrary to the postulate that the regulation of the currency should be based as far as possible upon objective and unchangeable criteria which leave no room for false interpretations, and be left as little as possible either to the discretion of individuals, who only too often might err in passing judgment on a given situation, or to the influence of powerful groups whose interests might not at all coincide with the general welfare. Readers familiar with economic theory will here instantly recognize an argument that is often put forward by adherents of the gold standard; but I think it may be claimed more properly for a well-regulated index standard. Under the latter system the road of monetary policy is marked much more accurately, and deviations

[16] For details of this plan the reader is referred to Fisher's book, *Stabilizing the Dollar*, New York, 1920.

are much less likely to occur than under the gold standard in its present form. Involuntary aberrations from the straight path have happened again and again during the recurring business cycles which were characterized by heavy fluctuations in the volume of money and credit; and the peculiarities of legal reserve requirements make it also comparatively easy to set aside more or less deliberately the principles of sound monetary policy. In precarious situations the reference to the necessity of "protecting" the country's currency helps to conceal the real situation. The actual or suspected withdrawals of gold by capitalists abroad or at home then preoccupy public attention. The suspension of gold payments under such circumstances appears to be entirely justified, because otherwise the country would be deprived of its store of the precious metal. Under the cover of "temporary" difficulties in retaining the legally prescribed gold reserve, many governments inflated their currencies heavily during the war and in part also in the years immediately afterward. The circumstances made it difficult for the general public to recognize the inflation.

If, however, a stable value of money is the legally established aim of monetary policy, every intentional deviation from the marked road—be it inflation or deflation—is instantly noticed by changes in the index number of prices, and thus also rendered extremely difficult. Therefore the widespread distrust of the index standard as a "managed" standard is entirely unjustified. Under this system the tendencies of monetary policy can be recognized instantly and clearly by its effects. No other system offers the same possibilities of public control.

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